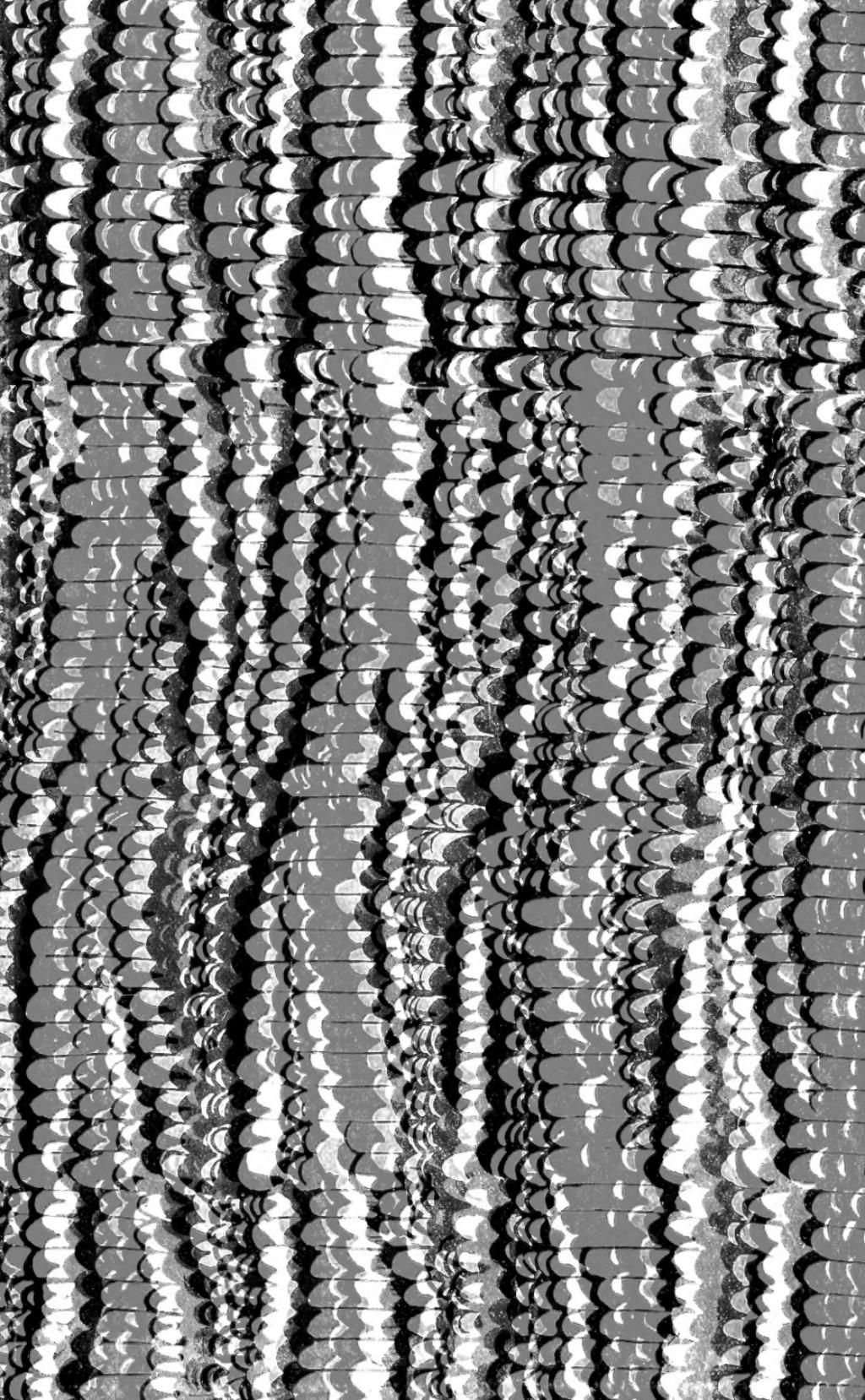
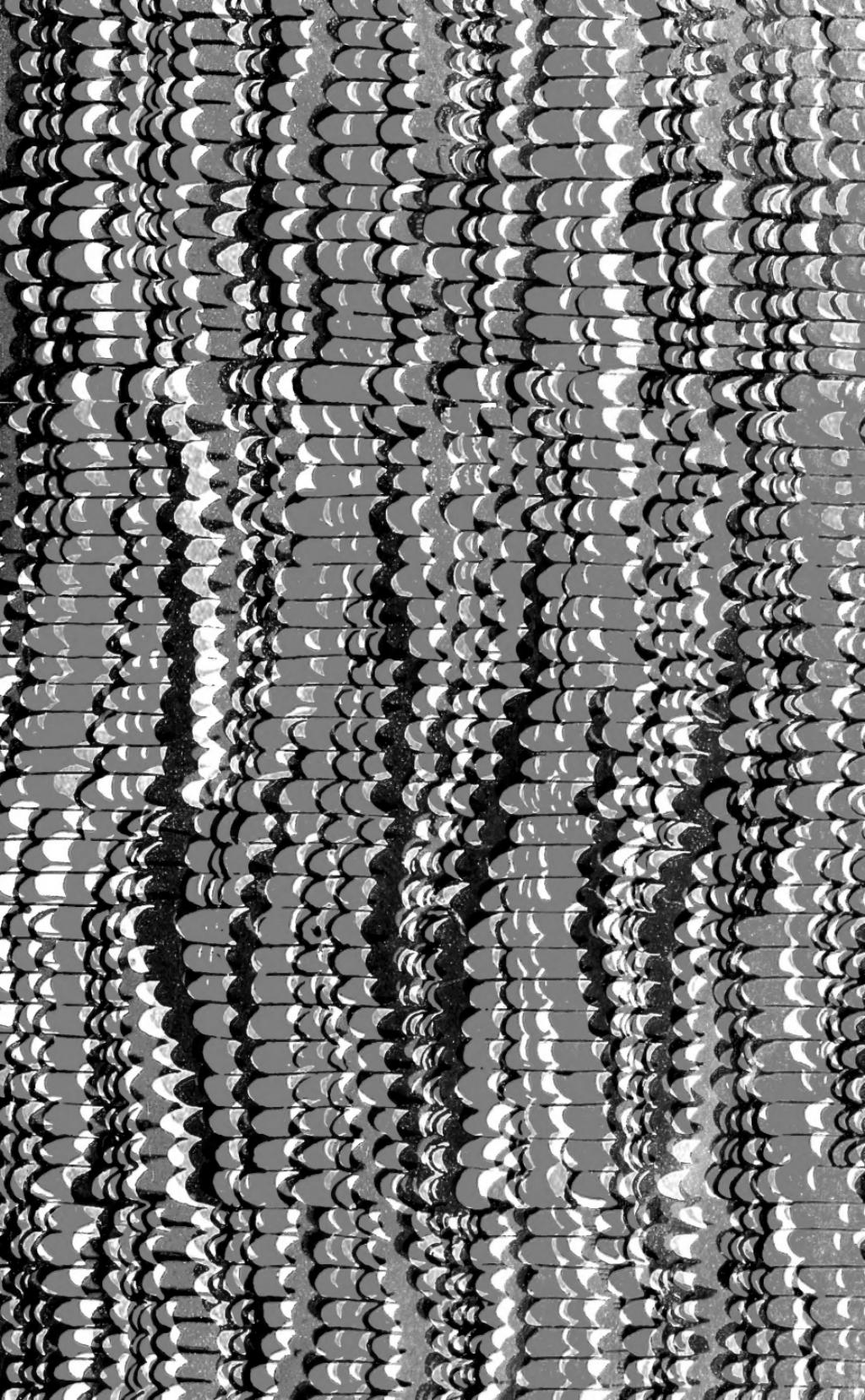


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REMARKS

UPON THE

PORCELLANIDEA

OF THE

WEST COAST OF NORTH AMERICA.

BY

W. N. LOCKINGTON.

"Remarks on some new Alphei, with a Synopsis of the North American Species", by W. N. Lockington. — ¹⁸⁷⁸ see Ann. Mag. Nat. Hist. (5) I pp. 465—480, — of which we have no separate copy, a photo copy is in Mar. Invertebrate pamphlet file.

THE accompanying list of *Porcellanidea* (which includes descriptions of nine species I believe to be new, since they are certainly distinct from any of those described or mentioned by Stimpson as found upon this coast) does not profess to be complete, but merely to give facts of distribution and other particulars respecting forms with which I am acquainted.

Stimpson, in his 'Prodr. des Anim. évert.' 1858, divides the old genus *Porcellana* into the following genera:—*Petrolisthes*, *Pisosoma*, *Raphidopus*, *Pachycheles*, *Megalobrachium*, *Porcellana*, *Minyocerus*, *Porcellanella* (White), and *Polyonyx*.

In the first two of these the first joint of the antennal base is short, not reaching the margin of the carapax; while in all the others the first joint is more or less produced, and joined to the margin of the carapax.

The more convex carapax, stouter chelipeds, and less projecting front are the characters which separate *Pisosoma* from *Petrolisthes*; but as some of my species have some of the characters of the former genus, while they are without others, I find it exceedingly difficult to discriminate. I have therefore included *Pisosoma* in *Petrolisthes*, placing the former name in brackets before the specific names of such species as, in my

belief, will belong to it if it be retained by carcinologists. Of the other genera, *Pachycheles*, *Porcellana*, and *Polyonyx* are found on this coast. These genera are distinguished from each other by well-marked characters: the first by its stout rough chelipeds and short carpus; the second by the long narrow carapax, prominent front, and deep orbits; and the third by its broad carapax, and by the bi- or multiunguiculate dactyli of the ambulatory feet. The former character distinguishes *Polyonyx* from *Porcellanella* (White).

Most of the Pacific-coast species belong to the genus *Petrolisthes*, which is, moreover, by far the largest section of the old genus *Porcellana*.

The total number of species here recorded is sixteen, nine of which I believe to be new; twelve belong to *Petrolisthes* (including *Pisosoma*), two to *Pachycheles*, one to *Porcellana* as restricted by Stimpson, and one to *Polyonyx*.

I have examined specimens of all the species except *Petrolisthes gracilis*, *eriomerus*, and *occidentalis*.

All the presumably new species here described are from either the east or west coast of the peninsula of Lower California, a district which has not as yet been thoroughly explored for its marine fauna, although large collections of birds, fishes, echinoderms, and aleuronarians have found their way thence to the museums of the eastern States.

Genus PETROLISTHES.

- a.* Carapax flat, ovate; carpus at least twice as long as wide.
- Carpus three times as long as wide; anterior and posterior margins parallel, straight, and smooth, with a sharp tooth at posterior distal end. *P. gracilis*.
- No teeth in front of carpus, but a prominent inner lobe and a tooth at posterior distal end; front triangular, depressed. *P. rupicolus*.
- Front less prominent than in the last species; no prominent inner lobe to carpus; posterior margin of carpus denticulated. *P. eriomerus*.
- Carpus with two or three teeth in front and a tooth at posterior distal end; dactylus of larger cheliped strongly hooked; all the limbs fringed with long setae. *P. hirtipes*.
- Postorbital tooth not spinous; carapax covered with short plications; carpus with four blunt teeth in front. *P. crenulatus*.
- Postorbital tooth spinous; a second spine behind this, from which a ridged margin runs backward; carapax and chelipeds rugose. *P. occidentalis*.
- Postorbital tooth obtuse, a spine behind it; carpus with three acute teeth in front; meros of

ambulatory feet with two or three spines on upper edge, and one at posterior distal end. . . . *P. armatus*.
 Pre- and postorbital spines acute; front boldly triangular, a spine behind postorbital; carpus spinous before and behind; chelipeds equal; meros of ambulatory feet with a row of spines anteriorly; carapax and all the limbs pubescent *P. Edwardsius*?
 b. Carapax convex; carpus short; chelipeds stout.
 Carpus nearly twice as long as wide; carpus and manus with three longitudinal rolling ridges; chelipeds equal *P. sinuimanus*.
 Carpus as broad as long, front margin laminate; hands flat; chelipeds subequal *P. gibbosicarpus*.
 Hands dissimilar; carpus nearly as broad as long, its laminate front margin with three crenulated teeth *P. setimanus*.
 Carpus as broad as long; front lamina in three low lobes; carapax and chelipeds smooth and shining; a white spot behind each eye on antero-lateral margin *P. biocellatus*.

Genus PACHYCHELES.

Carapax with a raised margin, front entire; chelipeds very unequal; carpus very short, not toothed in front; manus protuberant along the centre *P. rufis*.
 Carapax and limbs with long pubescence, front trifid; chelipeds equal, with large tubercles above; carpus with a single large lobular tooth in front *P. tuberculipes*.

Genus PORCELLANA.

Carapax exceedingly elongate; postorbital acute, a spine on antero-lateral margin behind; chelipeds subequal; a small spine in front of carpus *P. transversilineata*.

Genus POLYONYX.

Carapax and limbs smooth; chelipeds equal; carpus with a deep concavity in front for the manus; dactyli of ambulatory feet multi-unguiculate *P. nitidus*.

Petrolisthes gracilis, Stimpson.

Petrolisthes gracilis, Stimpson, Ann. Lyc. Nat. Hist. vii. p. 74.

I have not examined any specimens which answer to Stimpson's description of this species.

Petrolisthes rupicolus, Stimpson.

Petrolisthes rupicolus, Stimpson, Prodr. des Anim. évert. p. 65.

This species appears to have a wide range. To the south it extends along the west coast of Lower California (Asuncion

Island, *Fisher*), and also along the Gulf coast of the same peninsula (Port Escondido; Las Animas Bay, *Fisher*); it is found on the islands of the Santa-Barbara group (Santa-Rosa and San-Miguel Islands, *Harford*), and thence by Monterey and the Farallones northward at least to Tomales, on the ocean-beach near which place I have procured it in abundance. Probably it extends much further to the northward.

It is abundant on rocky beaches in some parts of San-Francisco Bay.

Petrolisthes eriomerus, Stimpson.

Petrolisthes eriomerus, Stimpson, Ann. Lyce. Nat. Hist. N. Y. x. p. 119.

It is not very unlikely that this may prove to be a variety of *P. rupicolus*. All the examples of the latter species that I have examined have the tuft of hair between the fingers below; in many the posterior or outer edge of the carpus appears denticulated in consequence of the projecting edges of the short rugæ, which continue some distance down the outer surface; and the prominence of the laminate inner lobe varies in different specimens. I have a young *Petrolisthes* which has a slightly triangular front (projecting much less than that of a somewhat larger *P. rupicolus*), and the two sides of the carpus parallel. So far it agrees with *P. eriomerus*; but the posterior margin of the carpus is not denticulated, and the ambulatory feet are not "everywhere hairy," but covered with granules, except a few hairs on the dactyli.

I believe this specimen to be the young of *P. rupicolus*.

Petrolisthes hirtipes, nov. sp.

Carapax slightly longer than wide, somewhat pentagonal, a single lobular tooth behind the eye; upper surface tomentose, granular anteriorly.

Front three-lobed, margined with setæ, central lobe low and broad; no postorbital spine.

Eyes large and projecting.

Antennal peduncle armed with tubercles, the largest on the anterior portion of the penultimate joint.

Meros of chelipeds short, with a long tooth at its anterior distal end; carpus about twice as long as wide, with two or three teeth on its anterior margin, and a long tooth at its posterior distal extremity; manus flattened, thickest along the centre of its length, and broadest at the insertion of the dactylus; dactyli dissimilar, that of the left cheliped stout, inserted somewhat obliquely, and very strongly hooked at the tip, which is obtuse and overpasses that of the pollex, that of the right cheliped with the inner edge straight, the tip sharp-

pointed and slightly bent; pollex of right cheliped with an obtuse tip, that of left sharp and slightly bent inwards.

Upper surface of manus, carpus, and meros covered with tubercles; two distinct longitudinal series of tubercles on each dactylus; the inner margin of the left dactylus, outer margin of both propodi, and inner margin of carpus clothed with a fringe of long setæ.

Ambulatory limbs tomentose above, with a long fringe of setæ on both margins; upper surface granular.

Length of carapax 7 millims., width 6.

Dredged in five fathoms, Mulege Bay, Gulf of California; also at Port Escondido. Several specimens.

The tubercles of the chelipeds are tipped with red (in spirits); and the bent tip of the left dactylus is bright red.

When the tomentosity of the carapax is rubbed off, the channel between the orbital and antero-lateral margins and the postgastric sulcus are distinct.

The long setæ which fringe the limbs are themselves regularly fringed along both sides with shorter setæ, appearing like a row of feathers, each with its shaft and pinnules.

Petrolisthes crenulatus, nov. sp.

Carapax covered with short plications, becoming rugæ toward the front and antero-lateral margins; gastric region elevated considerably above the frontal and orbital, the antero-lateral margin continuous, with four lobes, which bound the gastric region anteriorly.

Front deflected, consisting of the obtuse preorbital lobes and an obtuse-angled central lobe projecting slightly beyond them; postorbital tooth slightly marked, not spinous.

Cardiac region well defined by longitudinal sulci; two transverse sulci traceable across the entire carapax, the anterior enclosing the gastric region.

Chelipeds long and flattened. Meros with a blunt tooth at its anterior distal angle; carpus more than twice as long as wide, with four blunt teeth on its anterior margin, the two central largest; manus without spines; fingers of right and left chelipeds differing slightly, those of the right slightly gaping, and the right pollex with a blunt tooth.

Carpus and manus squamoso-granular, becoming granular on the manus; the upper surface of both joints tomentose toward the outer margin, especially near the elbow.

Ambulatory feet smooth, margined with long hairs anteriorly.

Length of carapax 10 millims., width 10.

Port Escondido, Gulf of California. A single specimen.

Petrolisthes occidentalis, Stimpson.

Petrolisthes occidentalis, Stimpson, Ann. Lyc. Nat. Hist. N. Y. vii. p. 73.

Stimpson says of this species that it is scarcely to be distinguished from *P. sexspinosis*, Gibbes; "but the carapax is slightly broader, the spines less prominent and acute, and the abdomen and feet more pubescent."

As he adds that the examination of a large number of specimens is necessary to establish these differences with certainty, it is evident that he did not feel sure of the specific distinctness of the form.

The characters given in the synopsis at the commencement of this article are taken from Gibbes's description of *P. sexspinosis* (Proc. Am. Assoc. 1850, p. 190).

I have not, to my knowledge, yet seen this form.

Petrolisthes armatus, Gibbes.

Petrolisthes armatus, Gibbes, Proc. Am. Assoc. 1850, p. 190.

Among the miscellanea from Lower California I find two specimens which I refer to this species.

The front is sinuous, the central portion arched forward, no preorbital spine; postorbital tooth obtuse; a little in the rear of the latter an acute spine, from which a not very prominent raised border runs backward around the carapax, which is punctate posteriorly, but with short rugosities anteriorly and on the margin.

Merops of chelipeds with a spine in front. Carpus almost three times as long as wide, armed with three large distant spines in front, and ten small ones along its raised outer margin; distal margin of carpus lobular; manus with a raised inner margin, the outer denticulate with a row of small spines, largest in the central portion of the palm, and passing into tubercles anteriorly and posteriorly; dactylus with a raised upper border; opposed edges of dactylus and pollex finely serrated. Merops of second pair with five or six small spines on anterior margin, that of third pair with six more prominent spines, that of fourth pair with four spines. A prominent spine at the posterior distal end of the merops of the second and third pairs, but none on the fourth pair. A long slender spine upon the posterior distal angle of the propodus of each of the ambulatory feet.

Ambulatory feet with long setæ, especially upon the three terminal joints, which show traces of bands of darker and lighter tints—red and straw-colour in the specimen (in alcohol).

The anterior border of the front is crenulate when viewed from above, and the antepenultimate joint of the antennal base has an anterior spinous lobe.

Stimpson mentions that most of his specimens had the outer edge of the hand smooth.

In one of the specimens there are two spines at the posterior distal extremity of the meros of third and fourth pairs; the carpus of the right cheliped has four spines in front, that of the left three; and of the denticulations on the posterior edge of the carpus only those at the distal extremity are developed into spines, four on the left and three on the right carpus.

Thus this species is subject to considerable variation.
My examples were from Mulege Bay, Gulf of California.

Petrolisthes Edwardsius, De Saussure.

As I have not seen De Saussure's description of this species (Rev. et Mag. de Zool. v. p. 366, pl. xi. fig. 3, *teste* Stimpson), and have only Stimpson's short description (Crust. & Echi. P. S. N. A. p. 40) to guide me, a description which will apply equally well to *P. armata*, I cannot be sure whether the two specimens I have before me (and I have seen others like them) are to be referred to *P. Edwardsius* or to a previously undescribed specific type. If the latter should prove to be the case, I would name the species *P. hirtispinosus*.

To facilitate identification I subjoin a description.

Entire surface of the carapax covered with short pubescence, beneath which the surface appears to be somewhat striated.

Gastric region elevated above the frontal and orbital, its raised anterior boundary passing into the lateral margin of the carapax above the level of the lateral spines.

Front triangular, depressed, projecting as much as that of *P. rupicola*; preorbital spine acute, separated from the central portion by a deep sinus; postorbital spine acute, with a broad base, above and behind which is a second, slender spine, merging into the rounded antero-lateral border.

A tooth on the penultimate, and a lobular tooth, ending in a spine, on the antepenultimate joint of the antennal base.

Distal border of the mandible with five or six small teeth.

Merops of chelipeds with a spine in front; carpus nearly three times as long as wide, with four or five large triangular teeth in front, ending in spines, followed by some spinose tubercles at distal end; central line of carpus elevated, posterior border with about nine small teeth; manus long and slender, an elevated line running longitudinally along it at about one third of its width from the raised interior margin; outer

margin denticulate, sometimes spinous (a young specimen has a row of six or seven spines).

Surface of chelipeds covered with squamose ridges with a crenulate edge, and thickly pubescent. The longitudinal ridge on the carpus is formed of prominent oblique squamæ, and that of the manus of a row of longitudinal crenulate squamose teeth, passing into a line of tubercles down the centre of the dactylus, which has a beaded upper margin. Fingers closely fitting, hooked at the tip. Chelipeds equal.

Merops of ambulatory feet with a row of spines, hidden among long setæ, on the anterior border, and a spine at distal end posteriorly on the second and third pairs; a slender spine at posterior distal end of propodus. Last three joints of these feet with long hairs and traces of colour (blue and red); meros pubescent.

Mulege Bay, Gulf of California.

Petrolisthes (Pisosoma) sinuimanus, nov. sp.

Carapax almost orbicular, somewhat convex, punctate, becoming granular on the lateral margins; front sinuous in three low lobes, the centre one very small, the preorbitalis very long and low; sulci enclosing the gastric and cardiac regions distinct in young specimens, which have the carapax smooth.

Eyes very small; external antennæ very short, scarcely as long as the carapax.

Chelipeds equal, similar. Merops usually with a blunt lobe at its anterior distal end; carpus nearly twice as long as wide, usually with a single blunt tooth in the centre of its anterior margin; manus and dactylus forming an obtuse triangle, outer edge of manus and pollex serrated.

Upper surface of the carpus and manus with three longitudinal rolling ridges, divided by furrows equal to them in size, the entire upper surface of meros, carpus, and manus deeply punctate and granular; dactyli granular. Fingers hooked and crossing at the tip.

Ambulatory feet stout, punctate, the two anterior pairs with the posterior distal end of the carpus produced backwards.

Entire surface free from tomentosity or hairs, except two or three stout hairs on the underside of the dactyli of the ambulatory feet.

Length of carapax of largest specimen 5.5 millims., width of ditto 5.5.

Several specimens found under coral and stones at low tide at La Paz and Port Escondido, Gulf of California.

This species varies considerably: some few specimens are without a trace of the lobe upon the meros or of the tooth upon

the anterior margin of the carpus; in others they are small, in others large and prominent. One specimen combines with the want of these teeth a carapax the surface of which is plicate upon the margins. The rolling ridges of the manus and carpus, and the deeply punctate surface of both, are constant characters.

This species is intermediate between *Petrolisthes* proper and Stimpson's *Pisosoma*, the carapax answering to the latter, the chelipeds approaching the former.

Petrolisthes (Pisosoma) gibbosicarpus, nov. sp.

Carapax smooth, somewhat convex, becoming slightly plicate on the postero-lateral margin, somewhat pentagonal, antero-lateral angles rounded; gastric and cardiac regions defined by sulci; front entire, sinuous; postorbital tooth very slender and acute.

Flagella of antennæ more than twice the length of the carapax.

Chelipeds subequal; meros with a laminate tooth at its anterior distal end above, and a spine on the underside distally; carpus as broad as long, the anterior upper margin entire, laminate, the lamina broadest near the proximal end; distal margin lobular; manus flattened, narrower than carpus; fingers gaping but slightly; dactylus hooked at tip and crossing the tip of the pollex.

Surface of carpus and manus punctate above when viewed with a lens, the carpus rugulose on its outer margin.

Ambulatory feet set with long hairs, especially upon their anterior surface, manus somewhat punctate; no hairs or pubescence on carapax or chelipeds.

Length and width of carapax equal, each measuring six millims. in the single female individual from which this species is described.

The hand and carpus show traces of decorative coloration, having a central area surrounded by a darker band.

The exact locality of my specimen is unknown; but it certainly came from Lower California.

From the comparative stoutness of the chelipeds and the slight projection of the front, this species would appear to belong to Stimpson's genus *Pisosoma*.

Petrolisthes (Pisosoma) setimanus, nov. sp.

Carapax orbiculate, regions circumscribed by sulci, that behind the gastric region deepest. Postero-lateral regions crossed by rugæ.

Front entire, rounded, very slightly projecting in the centre; postorbital tooth acute.

Eyes prominent, peduncle short.

Chelipeds short and stout; meros with a crista or large tooth at its anterior distal end; carpus but little longer than wide, upper surface laminate anteriorly, the thin portion with three teeth, the proximal largest, teeth crenulate along their edges; upper surface of carpus, as well as the large teeth or crests, beset with granules.

Hands dissimilar, sometimes the right, sometimes the left being the larger. Palm of larger hand as broad as long, thick, covered with smooth circular tubercles; pollex stout, short, curved; dactylus almost cylindrical, punctate, longer than the pollex; fingers gaping widely, but crossing at the tip.

Smaller hand with the fingers parallel and in contact throughout.

Anterior surface of carpus and manus of both chelipeds beset with hairs, longest on the margin.

Ambulatory feet fringed with scattered long hairs.

Length of carapax 9 millims., width 9.

Colour (in alcohol) bright red, deeper on the chelipeds.

Mulege Bay, San-José Island; both in the Gulf of California.

The dactylus in the larger hand is inclined at an angle of about 40° with the anterior margin of the palm.

The specimens were taken in August or September; and the females are loaded with ova.

The tubercles of the hand increase to teeth on the outer margin, which is thus serrated.

Petrolisthes (Pisosoma) biocellatus, nov. sp.

Carapax orbicular, convex, regions indistinct; front entire, almost straight, postorbital spine acute.

Chelipeds short, stout, equal; meros laminate at its distal anterior end; carpus as broad as long, the upper anterior portion produced forwards as a thick lamina, divided into three low lobes; manus stout, the palmar portion about equal in length to the carpus.

Surface of carapax and chelipeds smooth and shining, without hairs or setæ; carpus and meros of chelipeds somewhat squamose when viewed with a lens.

Ambulatory feet beset with long setæ on their anterior surface.

Colour (in spirits) bright red, a round white spot on each shoulder; tips of the fingers white.

The larger of the two specimens measures barely three centimetres in length.

Exact locality unknown. Lower California.

This pretty little species is a typical *Pisosoma*.

Pachycheles rufus, Stimpson.

Pachycheles rufus, Stimpson, Ann. Lyc. Nat. Hist. N. Y. 1862, vii. p. 76.

Stimpson states that this species was found "near San Francisco." I have not succeeded in finding it within the bay; but it may probably inhabit the rocky ocean-beach at no great distance from the Golden Gate.

The most southern locality I have on record for this species is Santa-Rosa Island (*W. G. W. Harford*); but among numerous bottles of material from Lower California I find one without a label which contains several young specimens.

In young individuals the tubercles or large granules of the manus and carpus are less prominent than in the adult.

The frontal region is densely pubescent, and the surface of the carapax striated toward the margins.

Pachycheles tuberculipes, nov. sp.

Carapax and limbs covered with dense and long pubescence, except in the central portions of the former; under surface smooth.

Front depressed; central portion triangular, deeply furrowed along the median line; preorbital acute, deflected; carapax nearly smooth in the centre, tuberculate near and along the margin, somewhat convex.

Eye-peduncle fitting closely between the pre- and post-orbital teeth.

Antennæ distant from orbit; peduncles rough.

Chelipeds and ambulatory feet a mass of tubercles above; tubercles covered with granules, especially upon the manus. Chelipeds subequal.

Carpus with a tubercular tooth on the anterior margin at its superior proximal extremity; shorter than the meros when viewed from below.

Manus more than twice the length of the carpus; dactyli parallel, hooked at tip, with a smooth rounded ridge along the upperside.

Length of carapax about 3.5 millims., width about 3.5 millims.

Locality. La Paz, Gulf of California.

Five specimens of this singular form were found mixed with other species, in one case from La Paz, in others from other ports on the Gulf.

The thick pubescence and the large size and granulated surface of the tubercles on the upper surface of the chelipeds render it extremely difficult to make out details, while at the same time they give it an unmistakable aspect.

The large tubercles on carpus and manus, knobbed ambulatory feet, and equal-sized chelipeds at once distinguish this species from *P. rufus*.

Porcellana transversilineata, nov. sp.

Carapax elongate, length to width as one and a half to one; a pair of transverse prominences, almost amounting to teeth, just behind the frontal region, followed by several series of short rugæ forming interrupted transverse lines across the carapax; rugæ becoming longer and more distinct posteriorly, where they are frequently capped with a very short fringe of setæ directed forward.

Gastric region distinctly outlined. Lateral margins of carapax thin, crossed by regularly disposed short rugæ, and ending anteriorly in a sharp spine separated from the post-orbital spine by a deep notch.

Front tridentate; teeth long and acute, central one longest; lateral teeth slightly deflected.

Eyes scarcely visible above, hidden beneath the broad bases of the lateral spines; eye-peduncles long.

A flat spine below each antenna, at the side of the epistome, directed forwards and inwards.

Chelipeds short, subequal; meros and carpus about equal in length, and equal to the palmar portion of the manus; meros with a sharp spine at its anterior distal end; carpus with a smaller spine near the centre of its length; manus broader and thinner than the preceding joints, sharp-edged on both margins, beset with long setæ having a club-like tip; fingers compressed, parallel, obtusely serrated on their inner edge.

Ambulatory limbs short, subequal, stout, sparingly beset with setæ.

All the limbs crossed by short squamose rugæ, similar to those of the carapax.

Abdomen long, the first two joints visible above when it is folded below the sternum.

Boca de las Piedras, Sinaloa, 3 fms.; also Angeles Bay, west coast, Gulf of California, 5 fms.

Several specimens, taken in September; females with ova.

Length of carapax 6 millims., width of ditto 4.

Polyonyx nitidus, nov. sp.

Carapax entirely smooth and shining, convex, transversely

ovate, considerably broader than long, regions indistinct; front entire, straight; no post- or preorbital tooth.

Chelipeds smooth, shining, equal.

Meros stout, produced into a prominent lamina distally and anteriorly; carpus stout, about twice as long as wide, cylindrical except posteriorly, where there is a deep concavity for the reception of the posterior side of the manus; manus stout, cylindroidal, fringed anteriorly with long setæ; fingers short, abruptly hooked at tip, serrated, the dactylus longer than the pollex.

Ambulatory feet short, smooth, sparsely setose; meros somewhat compressed; dactyli multiunguiculate.

Length of carapax 7 millims., width 10.

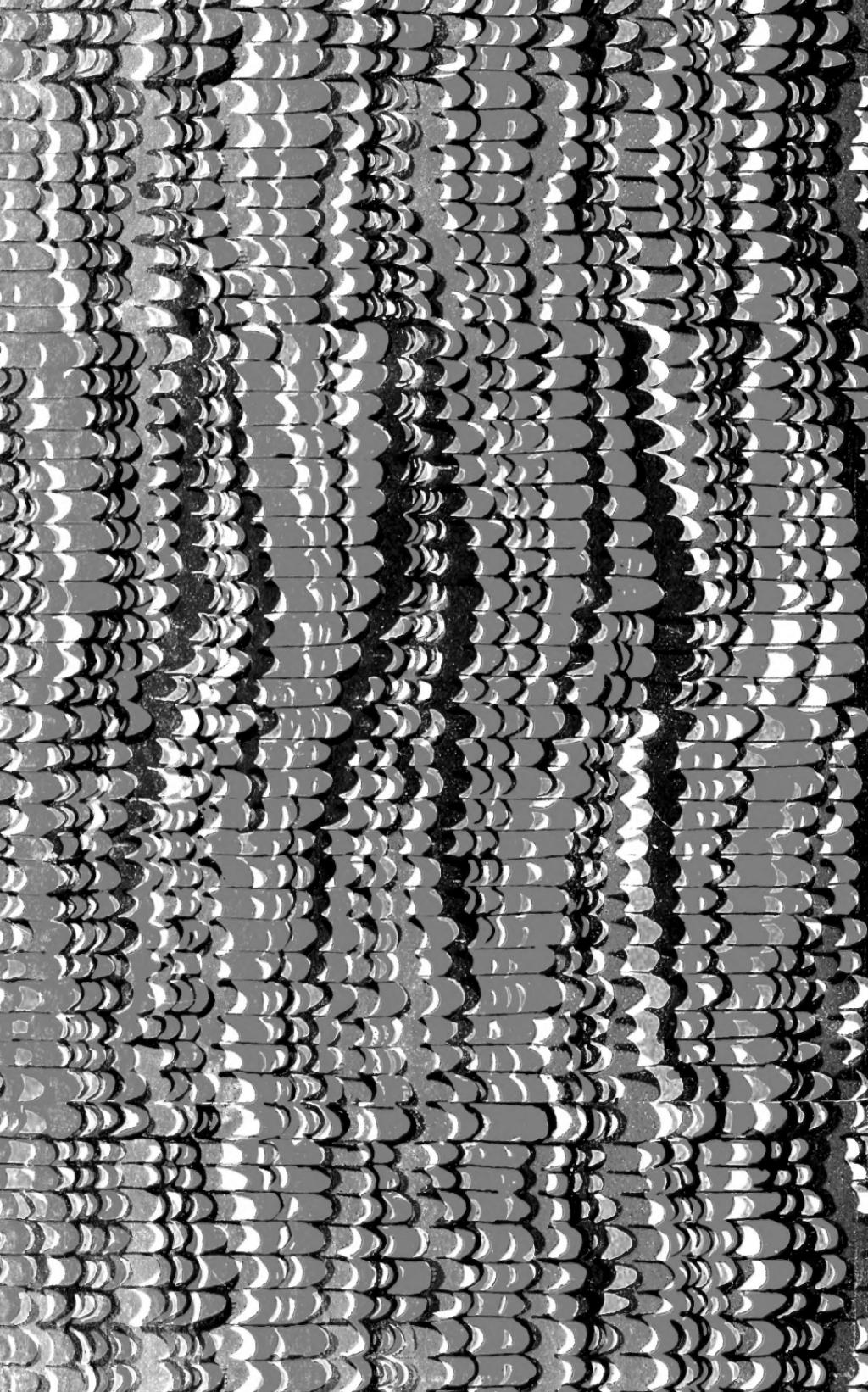
Exact locality unknown; Lower California.

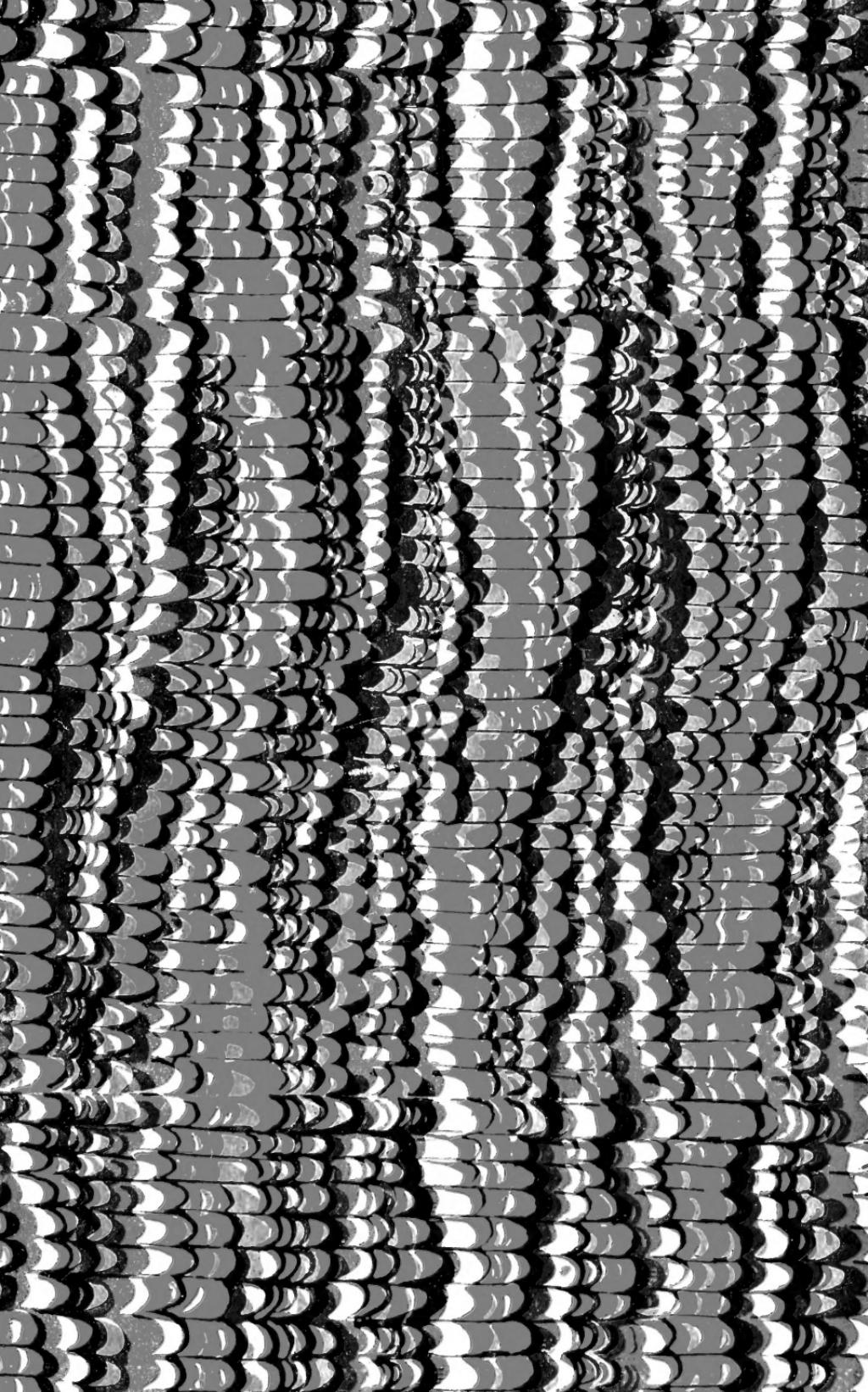
This specimen, found among some miscellanea of Mr. Fisher's collecting, evidently belongs to Stimpson's new genus *Polyonyx*, having the transversely ovate carapax, and entire front, which distinguish it from *Porcellanella* (White), and the multiunguiculate dactyli which characterize both genera.

The number of unguiculi does not appear to be equal on all the feet, as I counted four or five on the first ambulatory pair, and three only on the two succeeding pairs.

The first antennal joint is very long and the eyes minute, according to Stimpson's generic description. From *P. macrocheles*, Gibbes, it may be distinguished by the equal size of the chelipeds and the serrate edges of the fingers.

San Francisco, Sept. 5, 1878.







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